



Programme on  
Ecosystem Change and Society

Stockholm Resilience Centre  
Sustainability Science for Biosphere Stewardship



Stockholm  
University



# ABSTRACTS

OPEN SCIENCE CONFERENCE PECS II

NOVEMBER 7-10 2017  
OAXACA CITY  
MEXICO

CEDUA

EL COLEGIO  
DE MÉXICO



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Casa abierta al tiempo

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## PECS

The Programme on Ecosystem Change and Society (PECS) was launched in 2011. The principal approach of PECS research is an in-depth understanding of the social-ecological dynamics at landscape scale in a wide variety of situations. PECS uses a broadly set of conceptual frameworks and tools that eventually leads to comparisons of place-based, long-term social-ecological case studies, and reveals general principles for sustainable resource management. Since 2014, PECS is officially part of Future Earth, the newly created global research platform that aims to provide the knowledge and support to accelerate our transformations to a sustainable world.

## PECS 2017

The first Open Science Conference of PECS was held in South Africa in November 2015. PECSII- 2017 will advance from the momentum and insights gained during the PECS 2015. Eighteen transdisciplinary projects and five cross-cutting working groups have been endorsed within PECS projects, which together cover a wide range of social-ecological case-studies around the world.

Research across these case studies is adaptive and transdisciplinary and combines different knowledge systems and perspective. These features will ultimately, and ideally, allow for the guiding research questions of PECS to be co-designed and co-evolved together by researchers and stakeholders.

PECSII- 2017 will host more than 300 participants from more than 30 countries, from academic, governmental and societal organizations.



Welcome!

# WELCOME TO PECS-II

*Dear Friends*

Welcome to the Second Open Science Conference of the Programme for Ecosystem Change and Society (PECS), in Oaxaca, Mexico, November 7-10 2017 (PECSII). The emphasis this year is on “Transdisciplinary place-based research for global sustainability”. As a network of place-based research, PECS strives to foster interactions and gaining insights from comparisons across sites. Place-based research allows for a better understanding of global social-ecological dynamics, and how transformations towards sustainability are often triggered at the local scale through the co-construction of local solutions.

PECSII will build on previous PECS efforts to synthesize across sites and will highlight recent advances towards more successful transdisciplinary place-based research. Early PECS efforts were aimed at establishing a conceptual and methodological framework and at fostering the endorsement of projects as well as the establishment of working groups. Workshops held in Stockholm in 2013 and in Montpellier in 2014 led to a PECS special issue in Ecology and Society. The first PECS Opens Science Conference in 2015 in South Africa expanded the community and the range of projects and working groups, and was instrumental for quick starting new research approaches and fostering synthesis publications.

PECSII will welcome 350 participants from nearly 200 organizations, including research institutes, schools, universities, environmental NGOs, governments, consultants, as well as organizations of rural producer, of indigenous groups, of civil rights defenders and artists, from 35 countries spanning all continents.

We are looking forward to our very intense three-day program that is designed to foster debate, the discussion of new insights, the development of conceptual and methodological approaches, and the strengthening of a global community of practice. Plenary sessions, symposia, flash workshop, innovative and immersive sessions, speed talk sessions and posters sessions are all set up in ways to promote active exchanges among participants.

We have also set up additional activities to unravel interactions in a wide range of contexts. Pre- and post-meeting workshops and courses, field trips, and cherry picked cultural activities will further nourish our interconnections.

Enjoy this wonderful academic setup developed for you and by you and please make sure to take advantage of the wonders that the city of Oaxaca offers.

**Albert Nörstrom**

*Executive Director of PECS*

**Patricia Balvanera**

*Chair of the Local Organizing Committee of PECSII*

## Exploring farmers responses to policy instruments for better provision of Ecosystem Services: insight from participatory simulation in coffee agro-forestry system Costa Rica and Nicaragua (1019)

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Numerous policy instruments have been proposed to promote the provision of ecosystem services (ES) by agro-ecosystems. However, the design of sound incentive schemes is still a challenge, partly because of the difficulty to adapt it to the particularities of agro-ecosystem and socio-economic conditions. To respond to this challenge, we developed and tested a new approach to explore the possible effects of policy instruments on farmers' adoption of practices leading to enhance the ES provision in coffee agroforestry systems. We applied this approach in two watersheds in Centro America, where coffee plantations provide both ES and disservices. First, we conducted semi-structured interviews to coffee producers to analyze the diversity of their production systems and current responses to existing policies. Second, we developed a specific role-playing game (RPG) to simulate the effects of three instruments: the enforcement of the current regulatory environmental law, the setting of a specific Payment for Environmental Services; the development of green credits and environmental certification of products. We found that existing instruments are currently not effective in the regions but farmers would be responsive to some of the new incentives. Simulations showed that positive incentives would be the most effective to reduce environmental impacts without decreasing coffee production while an increased enforcement of the law impacts would negatively affect coffee production. After discussing the feasibility of the implementation of these incentives and the interests and limits of RPG method, we argue that it facilitates the co-design of sound incentives to overcome the challenges of multiple ES provision in agro-ecosystems.

## The "commodification" of nature: an anthropological look at the Payment for Environmental Services (1002)

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The paper poses the anthropological question "What does man returns to the nature or how he takes care of the nature?" Until the 20th century, man received goods from nature or levied them in counterpart of rituals that guaranteed the sacred and compulsory nature of the rules of management and preservation of natural resources. The extension and globalization of the merchant exchange put an end to it. Facing the inevitable and accelerated degradation of the environment, states and international organizations have been unable to set up a global regulatory environment organization. States and firms only agree on policies of commodification of nature that quickly become carbon market, compensation fund for pollution in the USA and their financialization. There is also a "commodification" of nature through certain forms of payment programs for environmental services (paying landowners and producers for services rendered by nature). Faced with the drifts of speculation in the carbon or biodiversity markets what kind of anti-utilitarian policy alternatives can be proposed? I propose to extend the hypothesis of Ostrom - about management of the common resources by the collective of farmers (peasants, fishermen, foresters) on the basis of practices of gift and reciprocity - to a hypothesis on the production of local public goods by groups or associations of rural people. The paper has two parts: 1) a theoretical return about reciprocity between man and nature 2) an analysis of the commodification of nature through green economy and payment for environmental services policies.